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Question Booklet Alpha Code

A

	Question Booklet Sl. No.
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Total Number of Questions : 100

Time : 75 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C & D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator **IMMEDIATELY**.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.



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1. The stub end of an electrode should normally be not more than
 - A) 5% of electrode
 - B) 10% of electrode
 - C) 15% of electrode
 - D) 20% of electrode

2. There are three pre-requisites for any fire or explosion to take place. Which one of the following is not included in the three pre-requisites ?
 - A) Fuel
 - B) Nitrogen
 - C) Oxygen
 - D) Ignition

3. In welding procedure, the PQR is stands for
 - A) Parent Quantity Record
 - B) Present Quality Reading
 - C) Procedure Qualified Record
 - D) Procedure Qualification Record

4. Material difficult to be spot welded is
 - A) Copper
 - B) Mild steel
 - C) Carbon steel
 - D) Stainless steel

5. What is the name of fusion zone in spot welding ?
 - A) Toe
 - B) Crater
 - C) Nugget
 - D) Shoulder

6. In which process cutting is possible in all positions on location ?
 - A) Metal arc cutting
 - B) Carbon arc cutting
 - C) Plasma arc cutting
 - D) Oxygen acetylene cutting

7. The velocity of plasma arc cutting stream is
 - A) 500 m/sec.
 - B) 600 m/sec.
 - C) 700 m/sec.
 - D) 800 m/sec.

8. In plasma arc welding, the working temperature is
 - A) 10000°C – 15000°C
 - B) 20000°C – 30000°C
 - C) 35000°C – 40000°C
 - D) 40000°C – 45000°C

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9. Electron beam welding, the tungsten filament unit, electrons is heated in vacuum chamber at
A) 1000°C B) 2000°C C) 3000°C D) 4000°C
10. Laser beam welding is used in
A) Aircraft B) Ships C) Railways D) Body building
11. Which welding process is more suitable for joining dissimilar metals ?
A) GMAW B) GTAW
C) Friction welding D) Submerged arc welding
12. Which gas is used for TIG welding of aluminium ?
A) CO₂ B) Argon C) Oxygen D) Nitrogen
13. Which welding is generally recommended for pipe to pipe or tube to tube joint ?
A) GTAW/Gas B) GTAW/Arc C) GTAW/CO₂ D) GTAW/TIG
14. Which gas have greater arc stability than with helium ?
A) CO₂ B) Argon C) Helium D) Hydrogen
15. In GTAW, the tungsten electrode fusion approximately at
A) 1500°C B) 2230°C C) 3380°C D) 4500°C
16. In GTAW process, tungsten with 2% thorium electrode is marked with
A) Red colour B) Blue colour
C) Black colour D) Green colour
17. What is the purpose of high frequency unit in GTAW welding ?
A) To produce the arc
B) To cooling the torch
C) To cooling the nozzle
D) To initiate the arc without touching the electrode on the base metal

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18. In GTAW process, aluminium is welded by
- A) Rectifier set
 - B) AC power source
 - C) DC power source
 - D) Engine driven set
19. Nickel and titanium is only welded for
- A) GTAW
 - B) FCAW
 - C) GMAW
 - D) MMAW
20. What is the use of backing strips and backing bars while welding the product ?
- A) To support the job
 - B) To strengthen the job
 - C) To minimize the defects
 - D) To minimize the distortion and contraction
21. What is the thermit reaction time ?
- A) 4 – 6 seconds
 - B) 7 – 10 seconds
 - C) 14 – 20 seconds
 - D) 25 – 30 seconds
22. Thermit for welding electric connections consist of
- A) Nitrogen and Steel
 - B) Helium and Copper
 - C) Hydrogen and Tungsten
 - D) Copper oxide and Aluminium
23. In which part of the electro slag, unit is used to deliver the electrode wire through the guide tube to the molten flux ?
- A) Wire feeder
 - B) Control panel
 - C) Electrode guide tube
 - D) Water cooled copper shoes
24. The temperature of molten slag pool in electro slag welding is
- A) 1400°C
 - B) 1650°C
 - C) 1800°C
 - D) 2100°C

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25. In which welding process, the thicker steel sections can be welded in a single pass in vertical position ?
- A) SAW
 - B) SMAW
 - C) GMAW
 - D) Electro slag and electro gas welding
26. In SAW process, use of run on and run off pieces for starting and ending is to avoid
- A) Crack
 - B) Porosity
 - C) Undercut
 - D) Formation of crater
27. What is the purpose of post-heating in certain welded jobs ?
- A) To reduce the toughness
 - B) To increase the toughness
 - C) To reduce hardness and brittleness
 - D) To increase hardness and brittleness
28. Pre-heating and post-heating is essential in welding of
- A) Cast iron
 - B) German silver
 - C) Stainless steel
 - D) High speed steel
29. Which kind of welding can be reduced the width of heat affected zone ?
- A) SAW
 - B) Gas welding
 - C) Thermit welding
 - D) Atomic hydrogen welding
30. If the weld metal melting completely through base metal, which resulting
- A) Crack
 - B) Undercut
 - C) Burn through
 - D) Lack of fusion
31. Which type of edge preparation is prepared to do for 25 mm plate in manual CO₂ dip transfer ?
- A) Single 'u'
 - B) Double 'j'
 - C) Double 'v'
 - D) Double 'u'

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32. In FCAW, what is the percentage of metal deposition efficiency ?
- A) 60% – 65%
 - B) 70% – 75%
 - C) 80% – 86%
 - D) 90% – 98%
33. In GTAW process, the torch nozzle is made of
- A) Lead
 - B) Copper
 - C) Ceramic
 - D) Aluminium
34. State the purpose of using a gas heater.
- A) To increase the gas velocity
 - B) To remove impurities from CO_2 gas
 - C) To improve inert property of CO_2 gas
 - D) Prevent freezing of moisture present in the regulator
35. Which one of the following statements is correct in the selection of the wire electrode ?
- A) Joint position of weld metal
 - B) Physical properties of weld metal
 - C) Chemical properties of weld metal
 - D) Mechanical properties of weld metal
36. GMAW process 0.8 mm dia. electrode is mild steel welding spray arc transfer the current and voltage range is
- A) 80 – 100 Amps, 16 – 22 V
 - B) 100 – 225 Amp, 17 – 22 V
 - C) 150 – 265 Amps, 24 – 28 V
 - D) 275 – 500 Amps, 24 – 32 V
37. Which of the following is the only GMAW process parameter ?
- A) Long arc
 - B) Stick out
 - C) Short arc
 - D) Damp electrode
38. In GMAW process, the dip transfer voltage is
- A) 10 – 15 V
 - B) 16 – 22 V
 - C) 23 – 22 V
 - D) 28 – 30 V

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39. In wire speed controls, the recommended range of wire speed is
A) 1 – 25 m/min
B) 1 – 30 m/min
C) 1 – 35 m/min
D) 1 – 40 m/min
40. Which kind of process is more economical and less edge preparation ?
A) GMAW
B) SMAW
C) GTAW
D) SAW
41. In GMAW process, volts ampere curve and constant current type ampere drop percentage is
A) 10%
B) 8.0%
C) 6.7%
D) 12.5%
42. At what percentage of oxygen can cause dizziness, unconsciousness or even death ?
A) 21%
B) 23%
C) Less than 18%
D) More than 21%
43. Mig welding of galvanized metal is extremely dangerous because it evaporate
A) Tin oxide
B) Zinc oxide
C) Lead oxide
D) Carbon monoxide
44. In a nick break test, a saw cut depth is
A) 2 – 2.5 mm
B) 1.5 – 2 mm
C) 1 – 1.4 mm
D) 2.5 – 3 mm
45. Which one of the test is used to defect surface and sub-surface ?
A) Visual inspection
B) Radiographic test
C) Liquid penetrant test
D) Magnetic particle test
46. Which one is to check the contour of welds ?
A) Scale
B) Template
C) Slip gauge
D) Vernier calipers

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47. Name the tool which will avoid the damage and impression on the metal sheets.
- A) Ball peen hammer
B) Cross peen hammer
C) Straight peen hammer
D) Mallet
48. Which shade number of the filter glass is fitted in the helmet for MMAW ?
- A) Shade number – 6
B) Shade number – 8
C) Shade number – 10
D) Shade number – 12
49. Which one of the following welding machine will supply alternating current for welding ?
- A) Rectifier set
B) Transformer set
C) Engine driven generator set
D) Motor generator set
50. Open circuit voltage of welding machine is
- A) 18 – 40 V
B) 40 – 95 V
C) 60 – 110 V
D) 130 – 170 V
51. The unit of electric resistance is called as
- A) Volt
B) Ohms
C) Joule
D) Ampere
52. Weld metal deposited above the surface of the parent metal is called
- A) Weld zone
B) Sealing run
C) Packing run
D) Reinforcement
53. Which kind of angle is used to prepare the single bevel in M.S. material for welding purpose ?
- A) 25°
B) 35°
C) 45°
D) 60°
54. Ratio of oxygen to acetylene for complete combustion is
- A) 1 : 1
B) 2 : 1
C) 1.5 : 1
D) 2.5 : 1

63. What is the post-heating temperature for welding medium carbon steel plate ?
A) 90°C to 100°C
B) 300°C to 600°C
C) 100°C to 300°C
D) 600°C to 900°C
64. The percentage of carbon in acetylene gas is
A) 80.3% B) 85.2% C) 89.5% D) 92.3%
65. Which type of valve is used in flashback arrestor ?
A) Needle valve B) Globe valve
C) Non return valve D) Pressure control valve
66. In which temperature liquid oxygen becomes solid ?
A) – 200°C B) – 210°C
C) – 218.4°C D) – 225.4°C
67. One kilogram of liquid oxygen produces
A) 750 litre of oxygen gas B) 800 litre of oxygen gas
C) 850 litre of oxygen gas D) 900 litre of oxygen gas
68. What is capacity of acetylene cylinder ?
A) 3.5 m³ – 8.5 m³ B) 4.5 m³ – 8.5 m³
C) 5.3 m³ – 8.5 m³ D) 7.5 m³ – 8.5 m³
69. Acetylene gas leakage is identified by
A) Soapy water B) Fresh water
C) Hard water D) Normal water
70. For what purpose of placing of wedge or an alignment clamp between plates ahead of the weld ?
A) Improper welding B) In complete penetration
C) Overlapping D) Divergence allowance

78. Which electrode is used to root pass welding of high pressure pipes ?
A) Rutile B) Iron powder C) Basic coated D) Cellulosic
79. In which substance coated electrode can be used AC/DC reverse polarity ?
A) Silicon B) Copper C) Titanium D) Manganese
80. Cast iron welded after performing the pre-heating range of temperature is
A) 200°C – 210°C B) 180°C – 200°C
C) 150°C – 180°C D) 250°C – 300°C
81. In which polarity, low hydrogen electrode is used ?
A) AC straight B) AC reverse C) DC reverse D) DC straight
82. In 3 mm thickness of high carbon steel, which diameter of filler rod can be used ?
A) 1.6 mm diameter B) 2.00 mm diameter
C) 2.5 mm diameter D) 3 mm diameter
83. Which alloying element increases hardness and toughness ?
A) Vanadium B) Tungsten
C) Chromium D) Manganese
84. The major problem in welding stainless steel is
A) High electrical resistance
B) Poor electrical resistance
C) Poor thermal conduction
D) Formation of chromium carbide
85. Which type of filler rod is to be selected to avoid weld decay in stainless steel welding ?
A) Columbium based
B) Phosphur bronze
C) Super silicon based
D) Copper coated mild steel

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86. Which flame is suitable for brass welding ?
- A) Slightly neutral flame B) Carburizing flame
C) Neutral flame D) Oxidizing flame
87. The divergence allowance for gas welding of 300 mm long copper butt joint is
- A) 1 to 2 mm B) 3 to 4 mm
C) 4 to 5 mm D) 5 to 6 mm
88. Which kind of welding process can be joint by dissimilar metals ?
- A) Bronze welding of copper B) Bronze welding of cast iron
C) Bronze welding of brass D) Bronze welding of mild steel
89. Melting point of aluminium oxide is
- A) 500°C B) 659°C
C) 850°C D) 1930°C
90. Which of the following nozzle size is selected for 3 mm thickness aluminium and its alloy ?
- A) 3 B) 5 C) 7 D) 9
91. Comparing to welding electrode, gouging electrode needs
- A) 5 – 10% current B) 10 – 20% higher current
C) 10 – 30% lower current D) 20 – 50% higher current
92. Which type of cast iron is very hard and brittle and is not weldable, and also not easily machinable ?
- A) Nodular cast iron B) Malleable cast iron
C) Gray cast iron D) White cast iron
93. The cast iron material has often post-heating which kind of cooling to be done ?
- A) Oil B) Air
C) Sand D) Water

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94. Which is not true about calcium carbide ?
- A) It is brittle
 - B) It absorbs moisture from atmosphere
 - C) It produces acetylene when brought in contact with water
 - D) It is soluble in kerosene oil
95. In a gas cut plate, the cut shows grooves and has deep drag lines. This is due to
- A) Tip too close to the cut surface
 - B) Too much travel speed
 - C) Less oxygen pressure
 - D) Smaller size cutting nozzle
96. What percentage of chromium and nickel are usually present in stainless steel ?
- A) 15% Chromium, 5% Nickel
 - B) 16% Chromium, 6% Nickel
 - C) 17% Chromium, 7% Nickel
 - D) 18% Chromium, 8% Nickel
97. Which type of welding source is preferred for welding of non-ferrous metals ?
- A) Welding transformer
 - B) Welding rectifier
 - C) Motor-generator set
 - D) Capacitor set
98. In resistance welding, if the current is doubled, the heating effect becomes
- A) Double
 - B) Four times
 - C) Eight times
 - D) Sixteen times
99. The presence of oxygen can reduce
- A) Strength
 - B) Ductility
 - C) Malleability
 - D) Toughness
100. Which of the following elements is added to steel to increase its resistance to corrosion in environments like seawater ?
- A) Aluminium
 - B) Copper
 - C) Titanium
 - D) Vanadium
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Space for Rough Work



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